

IN THE CLAIMS:

Please cancel claims 1-3 and add new claims 4-7.

Claims 1-3 (canceled).

4. (new): An assisted reverberation or room acoustic enhancement system, comprising:
multiple microphones positioned to pick up reverberant sound in a room,
multiple loudspeakers to broadcast sound into the room, and
a multichannel reverberator, comprising:
multiple signal inputs, one for each input channel and which receive similar bandwidth signals from the microphones;
a number of feed back comb filter networks connected one to each signal input,
each comb filter network including a feed forward stage to provide a substantially constant multi-channel power gain at audio frequencies;
a cross-coupling network cross-coupling the comb filters to increase the reverberation echo density;
and multiple signal outputs, one for each output channel.

5. (new): An assisted reverberation or room acoustic enhancement system according to claim 1, wherein the feed forward stage of the comb filters provides a transfer function matrix which is unitary at each frequency in the audio range.

6. (new): An assisted reverberation or room acoustic enhancement system according to claim 1, wherein the cross-coupling matrix is an orthogonal cross-coupling matrix cross-coupling a number of single channel allpass comb filters, positioned

immediately before or after the delay lines, to create a multi-channel allpass comb filter with a unitary transfer function matrix at all frequencies.

7. (new): A multi-channel unitary reverberator comprising:

multiple signal inputs, one for each input channel,

a number of feedback comb filter networks connected one to each signal input,
each comb filter network including a feed forward stage to provide a substantially
constant multi-channel power gain at audio frequencies, wherein there is one multiplier in
each channel residing in both the feed forward and feedback networks,

a cross-coupling network cross coupling the comb filters to increase the
reverberation echo density, and

multi signal outputs, one for each output channel.